AMENDMENTS TO THE CLAIMS

Claims 1-34. (Canceled)

35. (Currently Amended) A method of transmitting a digital data stream ~~so as to enable a bit error rate-reduced reception without influencing a peak power~~ in a digital wireless communications system, the method ~~including~~ comprising the steps of:

converting said digital data stream into a first stream of information symbols through ~~an 8-or-more-signal-point~~ a modulation scheme such that the number of signal points of the first stream of the information symbols is four or more on a signal constellation defined by said modulation scheme;

generating a pilot symbol of which a signal point on the signal constellation has an amplitude larger ~~disposed at a position farther from an origin of a said signal constellation defined by said 8-or-more-signal-point modulation scheme~~ than any amplitudes of possible signal points of the first stream on said signal constellation and differs in phase from a particular signal point of the first stream having a maximum possible amplitude among the signal points of the first stream of the information symbols on said signal constellation;

inserting said pilot symbol regularly in said first stream of said information symbols to generate a second symbol stream ~~without influencing a peak power of a smoothed second symbol stream~~; and

transmitting a modulated version of said second symbol stream by wireless.

36. (Original) A method as defined in claim 35, wherein said step of generating a pilot signal includes the step of setting said amplitude of said pilot symbol not larger than 1.6 times a maximum possible amplitude of said information symbols.

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37. (Currently Amended) A method as defined in claim 35, wherein said 8-or-more-signal-point modulation scheme is an 8-or-more-signal-point a quadrature amplitude modulation.

38. (Currently Amended) A method as defined in claim 36, wherein said 8-or-more-signal-point modulation scheme is an 8-or-more-signal-point a quadrature amplitude modulation.

39. (Currently Amended) A method as defined in claim 37, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in a symbol said signal constellation.

40. (Currently Amended) A method as defined in claim 38, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in a symbol said signal constellation.

41. (Currently Amended) A method as defined in claim 35, wherein said 8-or-more-signal-point modulation scheme is a quadrature phase shift keying.

42. (Previously Presented) A method as defined in claim 41, wherein said step of generating a pilot symbol includes the step of setting said amplitude of said pilot symbol not larger than 1.6 times a maximum possible amplitude of said information symbols.

43. (Currently Amended) A method as defined in claim 41, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said symbol signal constellation.

44. (Currently Amended) A method as defined in claim 42, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said symbol signal constellation.

45. (Currently Amended) A transmitter for transmitting a digital data stream so as to enable a bit error rate-reduced reception without influencing a peak power in a digital wireless communications system, the transmitter including comprising:

~~means for converting~~ a converter that is configured to convert said digital data stream into a first stream of information symbols through ~~an 8-or-more-signal-point~~ a modulation scheme such that the first stream has four signal points or more on a signal constellation defined by said modulation scheme;

~~means for generating~~ a generator that is configured to generate a pilot symbol of which a signal point on the signal constellation has an amplitude larger ~~disposed at a position farther from an origin of a said signal constellation defined by said 8-or-more-signal-point modulation scheme~~ than ~~any~~ amplitudes of possible signal points of the first stream on said signal constellation and differs in phase from a particular signal point of the first stream having a maximum possible amplitude among the signal points of the first stream on said signal constellation;

~~means for inserting~~ an inserter that is configured to insert said pilot symbol regularly in said first stream of said information symbols to generate a second symbol stream ~~without influencing a peak power of a smoothed second symbol stream~~; and

~~means for transmitting~~ a transmitter that is configured to transmit a modulated version of said second symbol stream by wireless.

46. (Previously Presented) A transmitter as defined in claim 45, wherein said means for generating a pilot symbol includes means for setting said amplitude of said pilot symbol not larger than 1.6 times a maximum possible amplitude of said information symbols.

47. (Currently Amended) A transmitter as defined in claim 45, wherein said ~~8-or-more-signal-point~~ modulation scheme is ~~an 8-or-more-signal-point~~ a quadrature amplitude modulation.

48. (Currently Amended) A transmitter as defined in claim 46, wherein said ~~8-or-more-signal-point~~ modulation scheme is ~~an 8-or-more-signal-point~~ a quadrature amplitude modulation.

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49. (Currently Amended) A transmitter as defined in claim 47, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in ~~a symbol~~ said signal constellation.

50. (Currently Amended) A transmitter as defined in claim 48, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in ~~a symbol~~ said signal constellation.

51. (Currently Amended) A transmitter as defined in claim 45, wherein said ~~8-or-more-signal-point~~ modulation scheme is a quadrature phase shift keying.

51. (Previously Presented) A transmitter as defined in claim 51, wherein said means for generating a pilot symbol includes means for setting said amplitude of said pilot symbol not larger than 1.6 times a maximum possible amplitude of said information symbols.

53. (Currently Amended) A transmitter as defined in claim 51, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said ~~symbol~~ signal constellation.

54. (Currently Amended) A transmitter as defined in claim 52, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said ~~symbol~~ signal constellation.

55. (Currently Amended) A ~~device including receiving means~~ reception system for receiving said modulated version of said second symbol stream transmitted in accordance with a method as defined in claim 35, the ~~device including~~ receiver comprising:

~~means for obtaining~~ a receiver that is configured to receive said modulated version of said second symbol stream;

~~means for using a pilot symbol~~ an estimating unit that is configured to estimate, by said pilot signal, an amplitude distortion of information symbols between said pilot ~~signal~~ symbol and a next pilot symbol in said second symbol stream;

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~~means for removing~~ a removing unit that is configured to remove said amplitude

distortion from said information symbols following said pilot ~~signal~~ symbol in said second

symbol stream by using said estimated amplitude distortion to obtain amplitude-distortion-

compensated information symbols; and

~~means for deciding~~ a deciding unit that is configured to decide a digital symbol

associated with each of said obtained amplitude-distortion-compensated information symbols

according to said signal constellation.

56. (Currently Amended) A ~~device including receiving means~~ reception system for

receiving said modulated version of said second symbol stream transmitted from a transmitter in

accordance with a method as defined in claim 35, the ~~device including~~ receiver comprising:

~~means for obtaining~~ a receiver that is configured to receive said modulated version of

said second symbol stream;

~~means for using a pilot symbol~~ an estimating unit that is configured to estimate, by said

pilot signal, an a frequency offset ~~of information symbols~~ between ~~said pilot signal and a next~~

~~pilot symbol in said second symbol stream~~ the transmitter and the receiver;

~~means for removing~~ a removing unit that is configured to remove said frequency offset

from said information symbols between said pilot ~~signal~~ symbol and ~~the~~ a next pilot symbol in

said second symbol stream by using said estimated frequency offset to obtain frequency-offset-

compensated information symbols; and

~~means for deciding~~ a deciding unit that is configured to decide a digital symbol

associated with each of said obtained frequency-offset-compensated information symbols

according to said signal constellation.

57. (Currently Amended) A ~~device~~ reception system as defined in claim 55, further

~~including~~ comprising:

~~means for using a pilot symbol~~ an estimating unit that is configured to estimate, by said pilot signal, ~~an~~ a frequency offset ~~of said information symbols~~ between ~~said pilot signal and the next pilot symbol in said second symbol stream~~ the transmitter and the receiver, wherein

said removing unit ~~means for removing said frequency offset comprises:~~

——— ~~means for removing~~ is configured to remove said amplitude distortion and said frequency offset from said information symbols between said pilot ~~signal~~ symbol and the next pilot symbol in said second symbol stream by using said estimated amplitude distortion and said estimated frequency offset to obtain fading-distortion-compensated information symbols, and

said ~~means for deciding a digital symbol comprises:~~

~~means for deciding~~ deciding unit is configured to decide a digital symbol associated with each of said obtained fading-distortion-compensated information symbols according to said signal constellation.

58. (New) A method of transmitting a digital data stream in a digital wireless communications system, the method comprising the steps of:

converting said digital data stream into a first stream of information symbols through a modulation scheme such that the number of signal points of the first stream of the information symbols is four or more on a signal constellation defined by said modulation scheme;

generating a pilot symbol of which a signal point on the signal constellation has an amplitude larger than amplitudes of possible signal points of the first stream on said signal constellation, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said signal constellation;

inserting said pilot symbol regularly in said first stream of said information symbols to generate a second symbol stream; and

transmitting a modulated version of said second symbol stream by wireless.

59. (New) A transmitter for transmitting a digital data stream in a digital wireless communications system, the transmitter comprising:

a converter that is configured to convert said digital data stream into a first stream of information symbols through a modulation scheme such that the first stream has four signal points or more on a signal constellation defined by said modulation scheme;

a generator that is configured to generate a pilot symbol of which a signal point on the signal constellation has an amplitude larger than amplitudes of possible signal points of the first stream on said signal constellation, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said signal constellation;

an inserter that is configured to insert said pilot symbol regularly in said first stream of said information symbols to generate a second symbol stream; and

a transmitter that is configured to transmit a modulated version of said second symbol stream by wireless.